

Notice of Allowability

Application No.

10/804,134

Examiner

F: Daniel Lopez

Applicant(s)

TAKADA ET AL.

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed August 26, 2005.
2. ☒ The allowed claim(s) is/are 41-73.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

REASONS FOR ALLOWANCE

Although Applicant's conclusion that the combination of Shimizu et al and Komura et al is not obvious is correct, Applicant's arguments implying that the drain orifice of the plug prevents the braking shock problem is misleading.

The following is an Examiner's Statement of Reasons for Allowance: the combination of elements as claimed is deemed to be directed to an unobvious improvement over the prior art as shown by Shimizu et al and Komura et al. Shimizu et al and discloses a hydrostatic transmission comprising a center section having first and second passages (5a, 5b; 5'a, 5'b) connecting a variable displacement pump (including 16) with a motor (including 17), wherein the first and second passages are parallel to each other in a horizontal plane in one embodiment (e.g. fig 3) and in a vertical plan, in a second embodiment (e.g. fig 17); wherein in the second embodiment, first and second check valves (54) are interposed between the first and second passages, respectively, and a charge fluid passage; wherein plugs (64) in ends of the first and second passages are connected to respective drain passages having orifices in the plugs, wherein the plugs are biased against a swing arm (39'c) connected to the pump; and wherein the swing arm is biased by a spring toward a neutral position. The plugs have two functions: to increase friction against the swing arm, as a function of pressure in the respective passages, to slow down the movement of the swing arm toward the neutral position by the spring, to decrease (e.g. column 2 line 13-20), to decrease shock due to dynamic braking (e.g. column 1 line 28-37), and to vent pressure through a slot (e.g. 39'd) in the swing arm, when the swing arm is in neutral position.

Komura et al teaches, for a hydrostatic transmission having first and second passages (39) connecting a variable displacement pump (25) with a motor (26); that the first and second passages are connected to respective drain passages having relief valves (including 53) and orifices, for the purpose of venting pressure when the pressure is low, which is when the pump is near neutral position.

Since the teaching of Komura et al can only replace one of the functions of the plugs of Shimizu et al, the combination of Shimizu et al and Komura et al would not eliminate the plug, just the drain passage in the plug. Since the plugs are still in the

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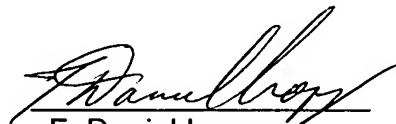
ends of the respective passage, the relief valves would have to be connected to the passages through a separate connector, further complicating the system. Therefore, one of ordinary skill in the hydrostatic transmission art would not find it obvious to use the teaching of Komura et al to modify the second embodiment of Shimizu et al.

Furthermore, even if Shimizu et al was modified by Komura et al, there is no indication of where the relief valve would be, it is unclear whether the charge passage and the drain passage would be separated from each other.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is 571-272-4821. The examiner can normally be reached on Monday-Thursday from 6:15 AM -3:45 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on 571-272-4820. The official fax number is 571-273-8300. Any inquiry of a general nature should be directed to the Help Desk, whose telephone number is 1-800-PTO-9199.



F. Daniel Lopez
Primary Examiner
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November 14, 2005